DOCUMENT RESUME

ED 042 696 24 SP 004 117

AUTHOR	Reed, Charles P.
TITLE	A Proposed Program for Scheduling, Project Management, Control and Instruction. GEM Bulletin 69-17.
INSTITUTION	Georgia Univ., Athens. Coll. of Education.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Bureau of Research.
BUREAU NO	BR-9-0477
PUB DATE	70
CONTRACT	OEC-0-9-200477-4043
NOTE	13p.
EDRS PRICE	EDRS Price MF-$0.25 HC-$0.75
DESCRIPTORS	*Computer Oriented Programs, Filing, *Flexible Scheduling, *Models, *Teacher Education
IDENTIFIERS	CETEM, *Comprehensive Elementary Teacher Education Models

ABSTRACT

A computer-oriented filing system is considered necessary to handle the approximately 1,500 students likely to be enrolled in the Georgia model program to train elementary teachers (ED 025 491) by the time it reaches sustained operation. The system of individualized scheduling involves establishing and maintaining a computer storage filing system on the progress of each student, the status and capabilities of faculty and staff, and the status of physical space and equipment. Since students will be handled on a distributed basis, the filing system must be capable of continuous daily updating and access. The system can be implemented at the University of Georgia using existing hardware (IBM 360/65 computer with remote terminals--also on Univak 9200) and software to be developed. Six basic programs will be required: 1) file maintenance (one for each file program), 2) testing program, 3) evaluation program, 4) scheduling program, 5) miscellaneous reporting programs, and 6) master internal central program. The filing system will require eight basic files each with two types of basic information: 1) identification, background, and performance history data, and 2) current status data. The eight files are student record file, testing decision tables, evaluation decision tables, scheduling decision tables, faculty and staff file, space and equipment file, accounting files, and internal central files and program. (JS)

JUL 27 19

GEORGIA EDUCATIONAL MODELS

University of Georgia

Athens, Georgia

ED042696

A Proposed Program For Scheduling,
Project Management,
Control And Instruction

U.S.
THIS
EXA
ORG
VIEV
SAR
CAT

SP004117

HA SE

ED042696

GEORGIA EDUCATIONAL MODELS
The University of Georgia
College of Education
Athens, Georgia 30601

A Proposed Program For Scheduling, Project Management, Control And Instruction

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

CEM Bulletin 69-17

Charles P. Reed
Director, Management Information Systems
Georgia Institute of Technology

1969

Note: This bulletin reports one of a series of investigations designed to develop, evaluate and implement a model teacher education program for the preparation of elementary teachers. This report was prepared pursuant to a contract with the Office of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy. This bulletin may not be reproduced without permission.

SP004127

The purpose of this report is to suggest the value that the computer can play in the development and operation of the model program.

The primary concern of the scheduling component of the model program is the student. The academic time schedule should be arranged so that a student is permitted to begin a new area of learning whenever he is ready to do so. In addition, allowance should be made in the time schedule and course load requirements of the program for individual differences among qualified students in their potential, rates of learning, health and physical stamina, financial resources, and other such variables. Finally, all students should be provided equal opportunity to receive high quality instruction (Johnson, Shearron & Stauffer, 1968, p. 189).

The basic conclusion of this investigation was that a manually oriented filing system would severely limit the number of students the system could handle. Therefore, a computer oriented filing system is a mandatory requirement to handle the relatively large number of students (approximately 1500) (Ayers, 1969) that are likely to be passing through the model program by the time it reaches sustained operation.

The system of scheduling for the model program is basically one of establishing and maintaining a computer storage filing system on the progress of each student, the status and capabilities of faculty and staff, and the status of physical space and equipment. Students in the model program will be handled on a distributed basis; therefore, the filing system must be capable of continuous daily updating and access.

The system described in the following paragraphs is based on the assumption of continuous updating and access. The assumption has been made that the system will be implemented at the University of Georgia using existing computer hardware. This system can be implemented on an IBM 360/65 computer with remote terminals. Comparable computer equipment such as the Univac 9200 could also be used. Software required for this scheduling system must be developed.

Six basic programs will be required for this scheduling system. These programs are: (a) file maintenance (one for each file program), (b) testing program, (c) evaluation program, (d) scheduling program, (e) miscellaneous reporting programs and (f) master internal central program. These six basic programs supplemented by other programs will operate the system.

The filing system of the operation will require eight basic files. Each file in the system will contain two types of basic information: (a) identifying, background, and performance history data, and (b) current status data. The eight basic files are discussed in the following paragraphs:

1. The student record file will contain one record for each student in the system. A record will contain, in addition to technical data, other information relating to his chosen curriculum, performance history and current assignment, and review schedule. The record will be updated for every testing and new assignment period. Figure 1 depicts the relationship of the student record file during testing. The relationships of this file to other aspects of the system is shown in the figures which follow.
2. The testing decision tables will be used to assist in the testing of a student at an assigned review period. The tables will be developed by the faculty and updated as information is fed back from the field via a reviewing group. Conceptually

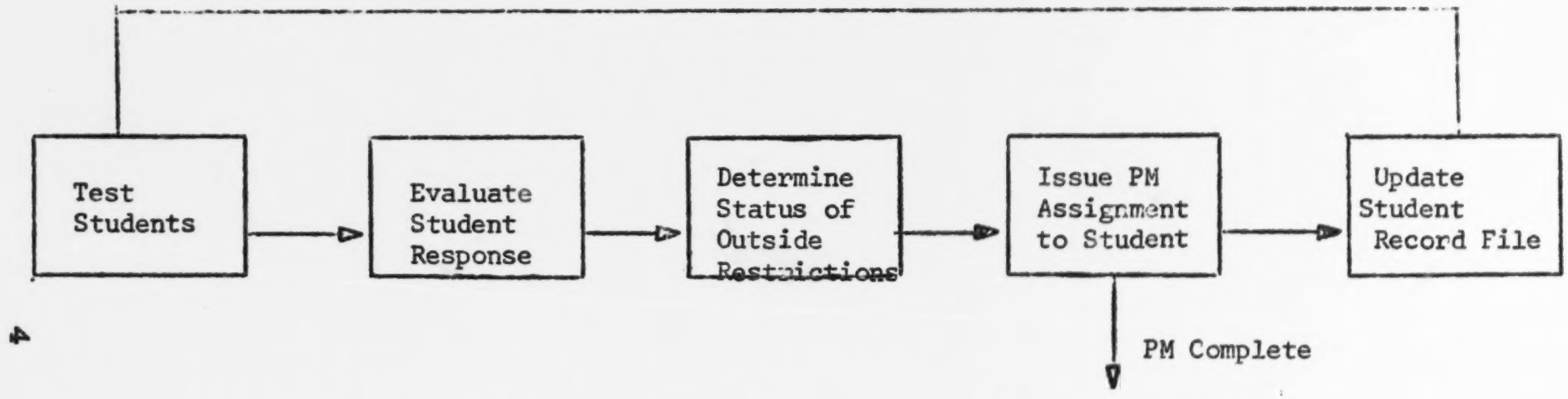


Fig. 1. Student record file flow for testing through file updating.

they can be visualized as two column tables: assigned task versus examination question or performance request.

The student will report to the system via a remote terminal at an assigned review period. The testing program would assess his student record to determine his last assignment and issue test questions versus performance inventory per the testing decision table. Figure 2 shows file relationships in the testing program.

3. The evaluation decision tables will be used to assist in evaluating a student's performance in a test. The tables will be developed and maintained by the faculty and staff, using feedback information from the field. The tables will consist of questions or reported actions versus acceptable response columns.

The student and/or assigned faculty member would report test responses via remote terminals, and the program per the evaluation decision tables would evaluate the student's response. Figure 3 shows file relationships in the evaluation program.

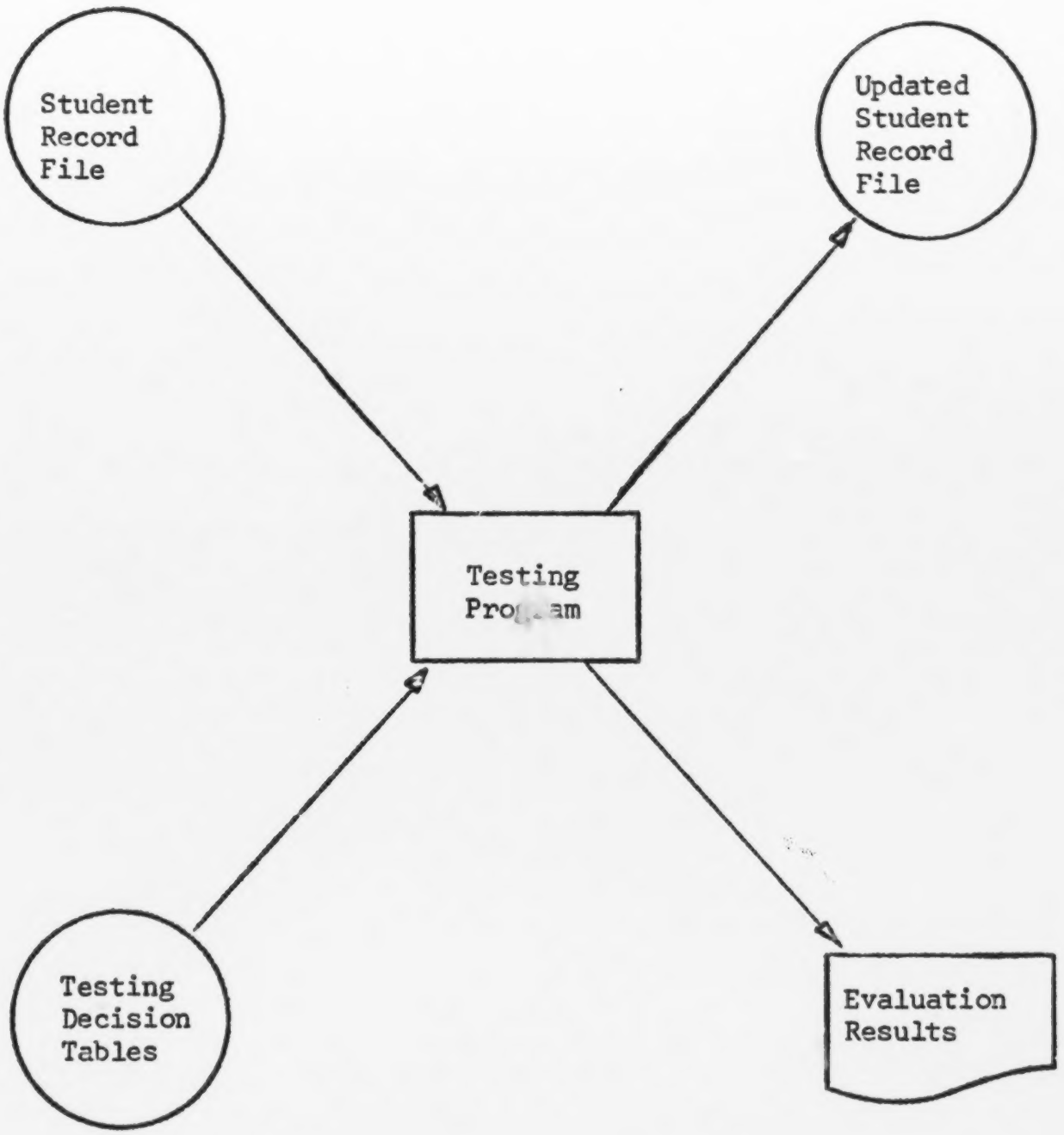


Fig. 2. File relationships in the testing program.

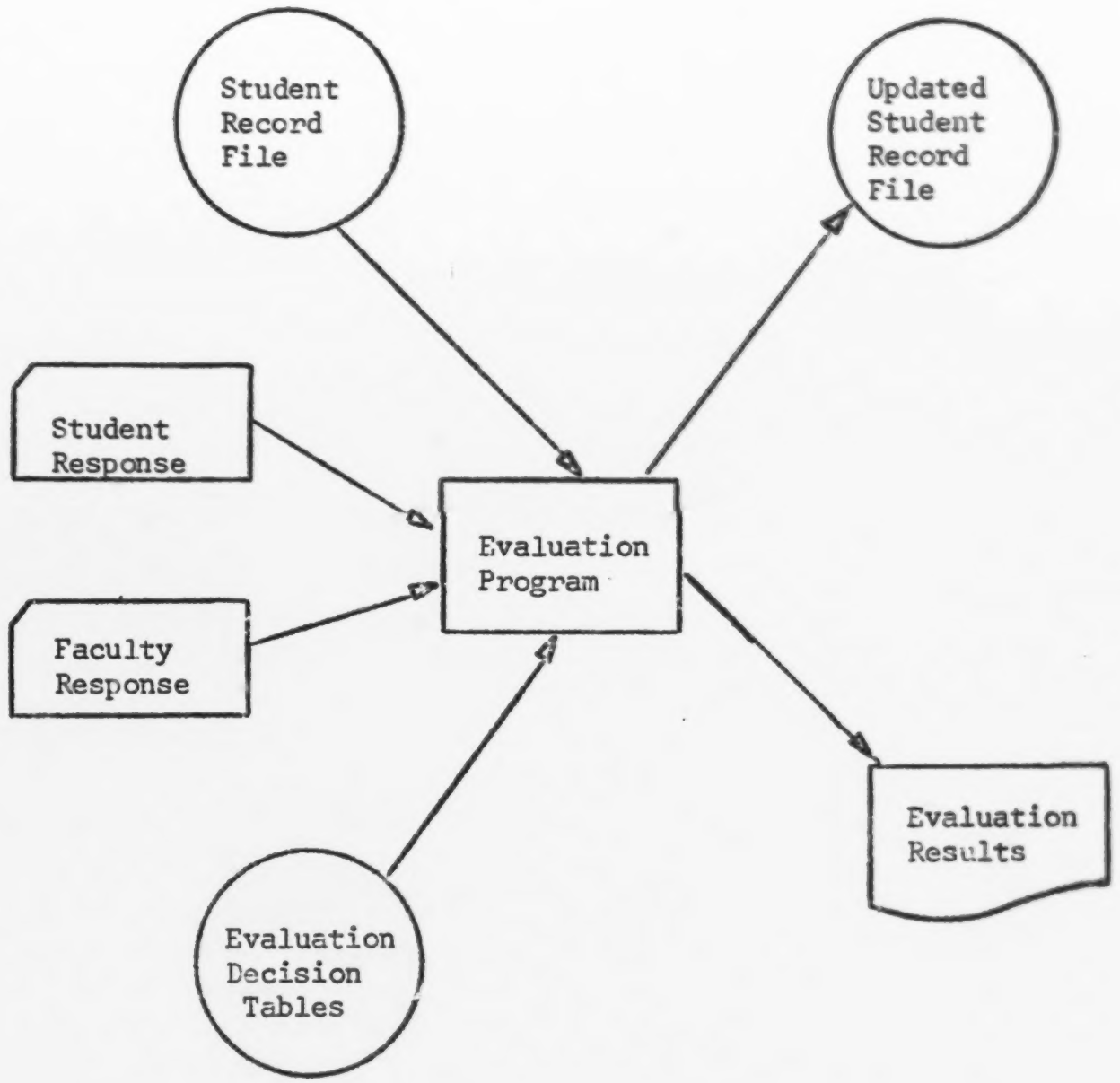


Fig. 3. File relationships in the evaluation program.

4. The scheduling decision tables will be two column tables of chosen curriculum and performance data versus new assignment alternatives. The scheduling program using the decision table information as a base can build a CPM network or linear programming matrix with faculty, space, and equipment restrictions supplied by the appropriate files to determine in an "optimum" sense the student's next assignment. Figure 4 shows file relationships in the scheduling program.

5. The faculty and staff file will contain a record for each faculty and staff member. Each record will contain, in addition to identifying data, information representing fields of specialization, capabilities, and current load information. The file will be updated whenever such information changes, particularly each time a new student is assigned to a faculty member. Figures 2 and 5 show the relationship of this file to testing and other files in the system and also to the master file updating and report generation subsystem.

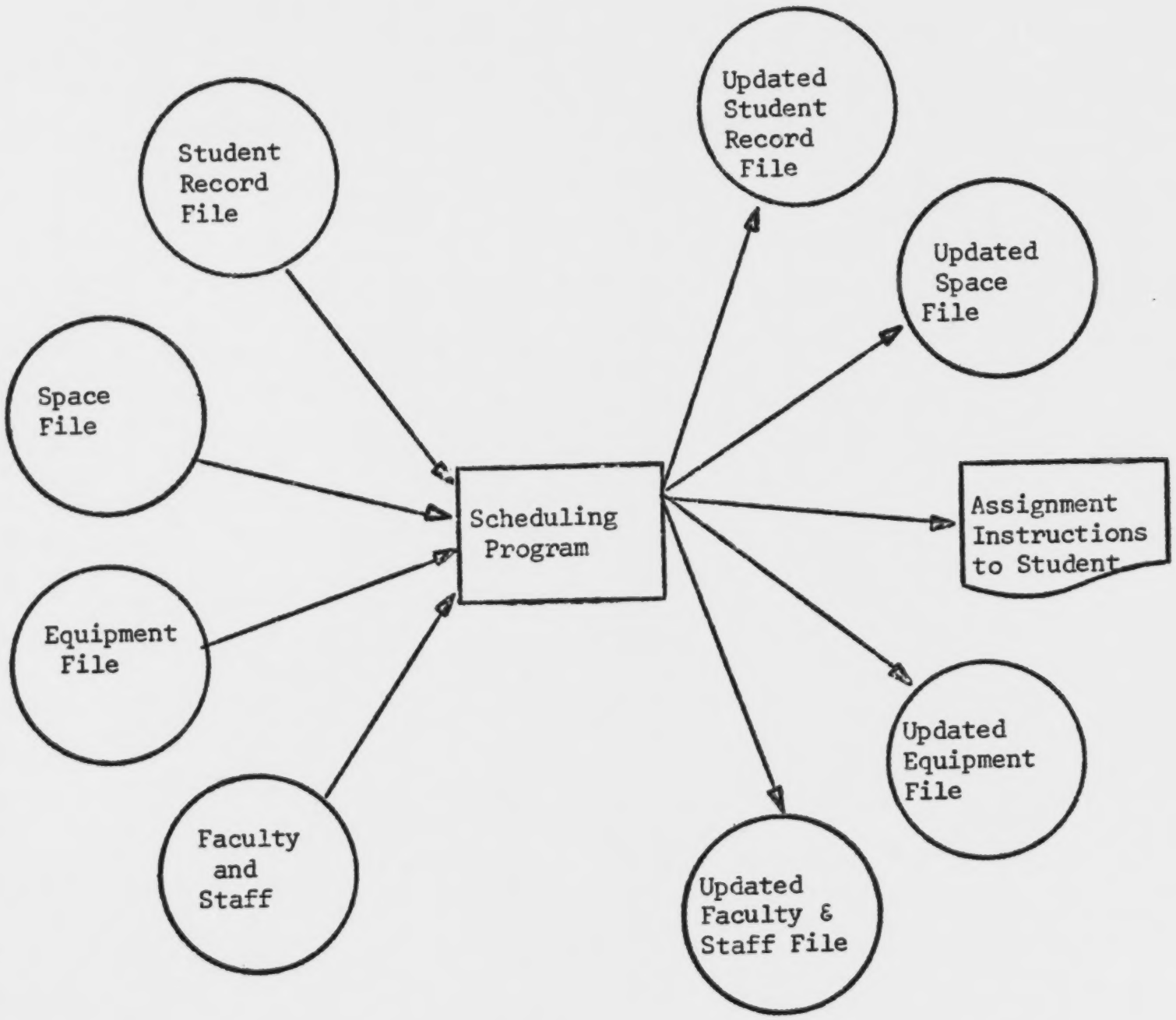
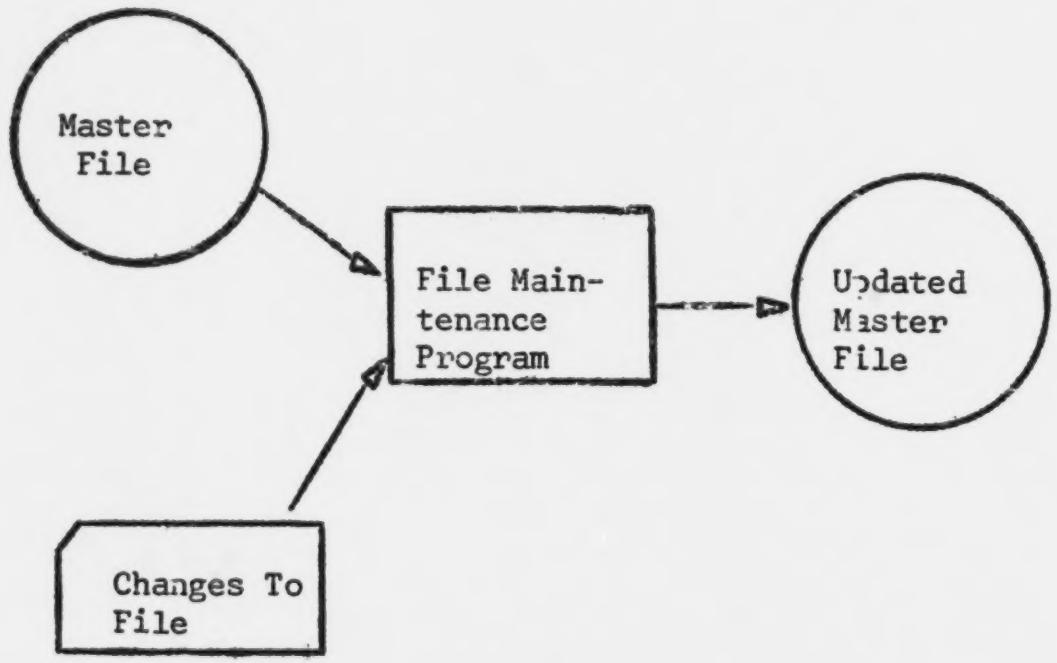


Fig. 4. File relationships in the scheduling program.

6. The space and equipment files will contain a record for each space unit or unit of equipment. The files will be updated each time a student is assigned to a space or equipment unit. Figures 2 and 5 show the relationship of this file to testing and other files in the system and also to the master file updating and report generation subsystem.

7. The accounting files consist of information pertaining to budget, expenditures, income, inventory, etc. They will be maintained in the traditional manner. The files will be used in conjunction with various reporting programs to provide estimates and performance information to the administration. The relationship of this file to master file updating and report generation is shown in Figure 5.

8. The internal central files and programs will be internal to the computer system and used to facilitate the handling of the many remote terminals associated directly with the operation of the computer system.



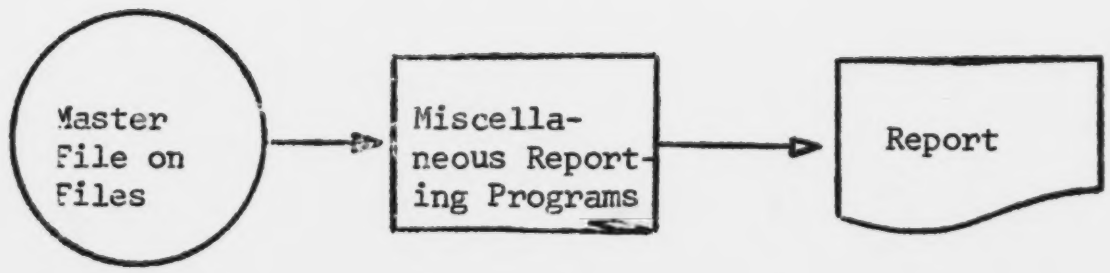


Fig. 5. Master file updating and report generation.

This same system of scheduling can be used by other colleges in the State of Georgia using the model program through remote terminal connections with the University of Georgia.

A scheduling system using existing computers with software of a kind described here developed in the initial phases of the project will be adequate to accommodate the number of students likely to be enrolled in the model program whether at the University of Georgia or in other colleges. The scheduling procedures established in this investigation are therefore feasible for the model program.

References

Ayers, J. B. Selected data on teacher-pupil personnel for GEM feasibility study: Report I, GEM Bulletin 69-2, Athens, Ga.: College of Education, University of Ga., July, 1969.

Johnson, C. E., Shearron, G. F., & Stauffer, A. J. Final Report: Georgia educational model specifications for the preparation of elementary teachers. Washington, D. C.: Bur. Res., OE, US Dept. HEW, Project No. 8-9024, Contract No. OEC-0-08924-3311 (010), Oct., 1968.

OM
PP PHASE
PE PHASE
PO PHASE